

INTELLOFAX 21

Italy

Notes on the "Libellula" ("Dragon-Fly") - New Italian Helicopter.

25X1A2

28 March  
Mid-March

25X1A6a  
25X1A6a

25X1X6

25X1X6

1. The new "Libellula" (Dragon-Fly) Helicopter, built by Count Ettore Manzolini, has just been shown at the airport of the Urbe. Lt. Col. Ranieri Piccolomini made the successful test flights.
2. The Libellula is a two-seater. It is fitted with two coaxial rotators which rotate in opposite directions. This model has advantages of compactness and lightness over helicopters fitted with rotators on axles that do not coincide. It also offers better yields, ease of control and safety on the ground than helicopters which have one single rotator and screw in the tail of the machine.
3. The Libellula is steered by a so-called 'cyclical command' of the blades in combination with the free oscillation of the blades themselves. This mechanism is based on a Bordonni invention:
  - Italian Bordonni patent No. 311,132 of 17 Feb 1931
  - US Bordonni patent No. 1,921,805 of 8 August 1933.
4. The Libellula is fitted with a four cylinder, lineal engine, 105 h.p. The engine has a vertical axis. The clutch flywheel system is placed in the upper part. The friction-gear is of the centrifugal type. It closes automatically when the motor attains a fixed number of revolutions. The engine is also fitted with a centrifugal speed regulator which acts on the carburetor to keep the revolutions steady. The engine is cooled by the vacuum produced by discharged gas in a special ejector; there is no need for a complicated system of ventilators or auxiliary bellows.
5. The 'maintenance tower' consists of a vertical steel tube around which the rotators revolve. The lower part of the tube is joined to the engine and the fuselage. The power transmission shaft works inside the tube. It causes the screws to turn by means of two reducers, of which one is a reverser.
6. The fuselage is formed by a frame of steel tubes on which various types bodies can be fitted as required.

~~CONFIDENTIAL~~

Security Information

This unevaluated information for US Officials  
Only is supplied for the possible interest of  
your analysts. It does not warrant dissemination by report.

25X1A2g

RETURN TO CIA  
LIBRARY

CONFIDENTIAL  
Security Information

-2-

7. Data

Total weight with load	Kg. 650
Empty weight	Kg. 450
Engine power	hp. 105
Weight of engine per hp.	kg. 0.800
Diameter of rotators	mt. 8
Practical ceiling	mt. 4000
Top speed	km/hr 120
Range	km 500

25X1A2g

-end-

This unclassified information for US officials only is  
supplied for the use of the US officials only. It  
is not to be distributed outside the US.

CONFIDENTIAL  
Security Information